TINNEMANS ET AL. - Application No. 10/813,687

Attorney Docket: 081468-0308853

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the

application:

1. (Currently Amended): A lithographic support system, comprising:

a moveable support structure configured to support and move an object, said support

structure comprising a robot arm having a rod coupled to a support frame that is provided

with a clamp that clamps the object; and

a <u>flexible</u> compliant structure configured to compensate for at least one of a tilt and

displacement absorb a force created by a collision between said object and said clamp, the

flexible compliant structure being provided at least between the rod and the support frame.

2. (Cancelled)

3. (Currently Amended): The lithographic support system of Claim 1, wherein said

flexible compliant structure comprises two or more compliant rods that are rotatable at their

ends.

4. (Currently Amended): The lithographic support system of Claim 1, wherein said

flexible compliant structure comprises a notch such that a front portion of the support frame

is enabled to rotate.

5. (Currently Amended): The lithographic support system of Claim 1, further

comprising a second flexible compliant structure provided on said clamp.

6. (Currently Amended): The lithographic support system of Claim 1, wherein said

support frame is in a plane defined by a x-axis, a y-axis, and a z-axis being perpendicular to

said x-axis and said y-axis, said flexible compliant structure providing a compliance in at

least one of a first rotation (Rx) about said x-axis, a second rotation (Ry) about said y-axis,

and a z-direction parallel to said z-axis.

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7. (Currently Amended): The lithographic support system of Claim 3 1, wherein said

flexible compliant structure is arranged such that said support frame is allowed to rotate about

a predetermined center of rotation.

8. (Currently Amended): The lithographic support system of Claim 1, wherein said

object comprises a substrate (W).

9. (Cancelled)

10. (Currently Amended): The lithographic support system of Claim 1, wherein said

<u>flexible</u> compliant structure comprises a metal flexure.

11.-14. (Cancelled)

15. (Currently Amended) A lithographic robot, comprising:

a robotic arm configured to hold and move an object, the robotic arm having a rod

coupled to a support frame that is provided with a clamp; and

a flexible compliant structure configured to-compensate for at least one of a tilt-and

displacement absorb a force created by a collision between said object and said robotic arm,

the <u>flexible</u> compliant structure being provided at least between the rod and the support

frame.

16. (Currently Amended): The lithographic robot of Claim 15, wherein said <u>flexible</u>

compliant structure comprises two or more flexible compliant rods that are rotatable at their

ends.

17. (Currently Amended): The lithographic robot of Claim 16, wherein said flexible

compliant structure comprises a notch such that a front portion of the support frame is

enabled to rotate.

18. (Currently Amended): A lithographic apparatus, comprising:

a radiation system configured to provide a beam of radiation;

a support structure configured to support a patterning device that imparts a desired

pattern onto said beam of radiation;

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a substrate holder configured to hold a substrate;

a projection system configured to project said patterned beam onto a target portion of said substrate; and

a support system that holds and moves one of said substrate, said patterning device, and an object, in which said support system comprises:

a support frame provided with a clamp;

a rod coupled to the support frame; and

a <u>flexible</u> compliant structure configured to <u>compensate for at least one of</u> a <u>tilt and displacement</u> <u>absorb a force created by a collision</u> between said substrate, said patterning device, or said object and said clamp, the <u>flexible</u> compliant structure being provided at least between the rod and the support frame.

19.-20. (Cancelled)

21. (Currently Amended): A device manufacturing method, comprising:

providing a substrate via a support system, said supporting system comprising a rod coupled to a support frame that is provided with a clamp structure that clamps said substrate, said supporting system configured to hold and move said substrate and compensate for at least one of a tilt and displacement absorb a force created by a collision between said substrate and said clamping structure by employing a flexible compliant structure provided at least between the rod and the support frame;

providing a beam of radiation using a radiation system;

imparting a desired pattern onto said beam of radiation by a patterning device; and projecting said patterned beam of radiation onto a target portion of said substrate via a projection system.

22. (Cancelled)

- 23. (*Previously Presented*) The lithographic support system of Claim 1, wherein the clamp is in contact with the object.
- 24. (*Currently Amended*) The lithographic support system of Claim 1, wherein the <u>flexible</u> compliant structure is arranged at least between the rod and the support frame so as to be in a contactless relationship with the object.

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25. (Currently Amended) The lithographic support system of Claim 1, wherein the <u>flexible</u> compliant structure is configured to compensate for at least one of a tilt and displacement <u>absorb a force created by a collision</u> between the object and the clamp during transport of the object between a first and a second support, the first and the second support configured to support the object.

26. (Currently Amended) A lithographic support system, comprising:

a moveable support structure configured to support and move an object, the support structure comprising a robot arm having a rod coupled to a support frame that includes a clamp configured to clamp the object; and

a <u>flexible</u> compliant structure configured to <u>compensate for at least one of a tilt and</u> <u>displacement absorb a force created by a collision</u> between the object and the clamp during transport of the object between a first and a second support, the first and the second support configured to support the object, the <u>flexible</u> compliant structure provided on the rod or the support frame so as to be in a contactless relationship with the object.

- 27. (*Previously Presented*) The lithographic support system of Claim 26, wherein the clamp is in contact with the object.
- 28. (New) The lithographic support system of Claim 1, wherein the flexible compliant structure includes a flexible material.
- 29. (New) The lithographic robot of Claim 15, wherein the flexible compliant structure includes a flexible material.
- 30. (New) The lithographic apparatus of Claim 18, wherein the flexible compliant structure includes a flexible material.
- 31. (New) The device manufacturing method of Claim 21, wherein the flexible compliant structure includes a flexible material.
- 32. (New) The lithographic support system of Claim 26, wherein the flexible compliant structure includes a flexible material.

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33. (New) The lithographic support system of Claim 1, wherein the flexible compliant structure includes at least one pair of leaf springs configured to provide a compliance in at least three degrees of freedom.

34. (New) A lithographic support system comprising:

a moveable supporting structure configured to move and support an object, the moveable supporting structure including a rod having a clamp mounted on one end of the rod and a compliant portion, the compliant portion provided by at least two notches in the cross section of the rod, the compliant portion providing compliance in one degree of freedom.